

CASE REPORT

Catamenial haemoptysis and clomiphene citrate therapy

B Hope-Gill, B V Prathibha

Thorax 2003;58:89-90

Case reports of catamenial haemoptysis are uncommon. We report the first case of thoracic endometriosis associated with clomiphene citrate therapy and previously unpublished endobronchial and angiographic findings.

Thoracic endometriosis has four patterns of disease: catamenial haemoptysis, catamenial pneumothorax, catamenial haemothorax, and asymptomatic pulmonary nodules. Catamenial haemoptysis is rare, there being about 20 published cases. We report previously undescribed bronchoscopic and angiographic features in a patient who presented with catamenial haemoptysis following treatment for secondary infertility with the ovulation inducing drug clomiphene citrate. This is the first reported case of thoracic endometriosis associated with clomiphene therapy.

CASE REPORT

A 28 year old gravida 3 para 3 woman presented with a 2 month history of recurrent moderate haemoptysis starting on the first day of menstrual bleeding which subsided during the intermenstrual period. Previous gynaecological history included two dilatation and curettage procedures and two diagnostic laparoscopies for lower abdominal pain which were normal. Two years earlier she had been treated for secondary infertility with a 3 month course of the ovulation inducing drug clomiphene citrate, 50 mg once daily on days 2-6 of her monthly cycle.

Physical examination was normal. Initial investigations, tumour markers, and autoimmune screen were also normal. High resolution computed tomographic (HRCT) scanning of the thorax revealed ground glass shadowing in the anterior segment of the left upper lobe suggestive of pulmonary haemorrhage. Flexible bronchoscopy performed during menses revealed striking diffuse hyperaemia of the left bronchial tree, extending distally from the carina to beyond the limits of visibility, which was associated with pronounced mucosal oozing. In contrast, the right bronchial tree had a normal mucosal appearance. There was no mass lesion and bronchial washings were culture negative. Endobronchial biopsy specimens showed mild inflammation but no histological evidence of endometriosis. Bronchial angiography demonstrated multiple arterial blushes throughout the left lung (fig 1). The hyperaemia of the left bronchial tree was reduced on repeat bronchoscopy during the intermenstrual period compared with the previous examination.

Treatment with danazol 100 mg daily was started but precipitated continuous haemoptysis and vaginal bleeding. Subsequent monthly treatment with the gonadotrophin releasing hormone (GnRH) analogue goserelin acetate, 3.6 mg subcutaneously for 6 months, also failed to control either menstruation or cyclical haemoptysis. Control was achieved only after 6 months of combination GnRH analogue therapy with nafarelin nasal spray, 400 µg twice daily, and leuporelin acetate, 3.75 mg subcutaneously, every 4 weeks. The patient has continued to receive this regime for a further 6 months with no recurrence.

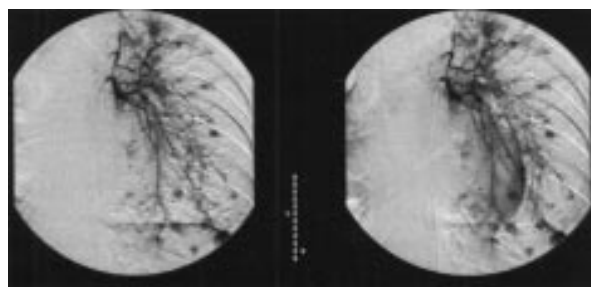


Figure 1 Left bronchial angiogram showing hypervascularity and multiple arterial blushes throughout the left lung.

DISCUSSION

Diagnosis of catamenial haemoptysis is usually clinical, based on haemoptysis coincident with menstrual bleeding. Although histological findings were unhelpful in this case, the characteristic history, cyclical change in bronchoscopic appearance, and eventual response to treatment are enough to warrant the diagnosis. We are aware of four previous descriptions of endobronchial abnormalities due to thoracic endometriosis in the English literature, each of which is different from the others.¹⁻⁴ There is only one previous description of angiographic abnormalities in catamenial haemoptysis.¹ This case provides additional evidence for the wide spectrum of disease manifestation possible in this condition.

It has been suggested that CT scanning is the investigation of choice in confirming the diagnosis, providing that it is performed during the symptomatic period, and that further investigations such as fiberoptic bronchoscopy and bronchial angiography are of little value.^{5,6} However, chest radiography, CT scanning, MRI scanning, bronchoscopy, and angiography all have a yield in this extremely rare condition. Yet the appearances obtained with each investigation are variable and non-specific within the context of a wide differential diagnosis. Furthermore, histological information is instructive in less than one third of cases.⁷ The diagnosis therefore remains one of exclusion. For these reasons we believe that bronchoscopy should remain integral to the investigation of catamenial haemoptysis and that all modalities may be needed to establish the diagnosis, the most important characteristic being catamenial occurrence of symptoms and any abnormality detected.

The pathogenesis of thoracic endometriosis remains uncertain. Pulmonary parenchymal endometriosis is thought to result from haematogenous dissemination of endometrial particles. Haemoptysis results from fluid shift during menstruation causing capillary rupture within the lesions.⁷ Previous vaginal deliveries and uterine instrumentation are strongly associated and support this hypothesis. Interestingly, however, this case illustrates the development of refractory catamenial haemoptysis following treatment with clomiphene citrate. This compound has recently been recommended as early empirical treatment for endometriosis associated infertility.⁸ Paradoxically, there have been previously reported cases of ovarian endometrial cysts associated with

clomiphene treatment.⁹ Furthermore, pelvic endometriosis has been found in 57% of women undergoing treatment with clomiphene compared with only 7% of controls.¹⁰ This is the first reported association between clomiphene citrate therapy and thoracic endometriosis and represents a possible risk factor for the development of this condition. We recommend caution in the use of clomiphene citrate as early empirical treatment for infertility, particularly in patients with other risk factors for endometriosis. In addition, a history of such treatment should be sought in patients presenting with catamenial haemoptysis.

.....

Authors' affiliations

B Hope-Gill, B V Prathibha, Respiratory Unit, Morriston Hospital, Swansea SA6 6NL, UK

Correspondence to: Dr B Hope-Gill, Respiratory Unit, Morriston Hospital, Swansea SA6 6NL, UK; bhopegill@netscape.net

Accepted for publication 6 February 2002

REFERENCES

- 1 **Kuo P-H**, Wang H-C, Liaw Y-S, *et al*. Bronchoscopic and angiographic findings in tracheobronchial endometriosis. *Thorax* 1996;**51**:1060–1.
- 2 **Butler H**, Lake KB, Van Dyke JJ. Bronchial endometriosis and bronchiectasis; a possible relationship. *Arch Intern Med* 1978;**138**:991–2.
- 3 **Bateman ED**, Morrison SC. Catamenial haemoptysis from endobronchial endometriosis – a case report and review of previously reported cases. *Respir Med* 1990;**84**:157–61.
- 4 **Rosenberg SM**, Riddick DH. Successful treatment of catamenial haemoptysis with danazol. *Obstet Gynecol* 1981;**57**:130–1.
- 5 **Guidry GG**, George RB. Diagnostic studies in catamenial haemoptysis. *Chest* 1990;**98**:260–1.
- 6 **Kato O**, Yamada H, Aoki Y, *et al*. Utility of angiograms in patients with catamenial haemoptysis. *Chest* 1990;**98**:1296–7.
- 7 **Foster DC**, Stern JL, Buscema J, *et al*. Pleural and parenchymal pulmonary endometriosis. *Obstet Gynecol* 1981;**58**:552.
- 8 **Adamson GD**. Treatment of endometriosis-associated infertility. *Sem Reprod Endocrinol* 1997;**15**:263–71.
- 9 **Gobos P**. Clomiphene citrate therapy and associated ovarian endometrial cysts. *Obstet Gynecol* 1979;**53**:763–5.
- 10 **Svigos JM**. Endometriosis and clomiphene citrate. *Lancet* 1990;**335**:475.